

ABSTRACT

A method for generating random numbers includes the steps of providing a liquid crystal cell containing a liquid crystal material, wherein a potential difference is applied across said liquid crystal material to cause a chaotic turbulent flow. The resulting flow or physical result of the liquid crystal material is measured to generate a baseline measurement, and subsequently the at least one physical property is measured again to generate a plurality of reading measurements. Determining the difference between each of the reading measurements and the baseline measurement, and setting bits based on the differences generates a sequence of random numbers. An apparatus for generating random numbers is also disclosed. These truly random numbers may then be used to encrypt data prior to transmission.

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